Landrover V8 Series III

Engine Tuning Specifications
Light Grade Repairs

Introduction

1. This is a reprint of the instruction originally issued as NZ P98 V 271-8. Experience gained by New Zealand Motor Corporation (NZMC) indicates that correct retuning for NZ conditions results in a vast improvement to the performance of the V8 LandRover.

2. The most commonly found faults on the production line were:

   a. the ignition timing too far retarded for satisfactory performance,

   b. the engine idle speed far too slow, the average was 500-600 rpm, and

   c. the CO and HC levels were far too lean due to the carburettors being tuned to UK conditions at assembly.

3. After tuning to the specifications detailed below the most noticeable improvements have been:

   a. the use of the choke can be kept to a minimum during starting and its prolonged used during warm up is eliminated;

   b. improved acceleration and better pulling power in third and top gears; and

   c. apparent elimination of the prevalent engine misfire problem.

Equipment Required

4. The following equipment is required to accurately tune the V8 engine.

   a. Tunescope or Engine Analyser.

   b. Infrared Exhaust Gas Analyser.

   c. Carburettor Jet Adjusting Tool (NSN 5120-98-856-0006).

   d. Carburettor Balancer (NSN 5120-99-820-6911).

Specifications

5. The specifications are as follows:

   a. Carbonmonoxide (CO): 4.5%.

   b. Hydrocarbon (HC): 400 - 500 rpm.

   c. Ignition Timing: 6° BTDC (Dynamic), or TDC (Static).

   d. Idle Speed: 720 - 732 rpm.

6. To further reduce plug fouling the RSN12Y spark plug is to be replaced with the RSN8 plug (0.030" gap).

7. After any adjustments the engine should be run at 2200 rpm to allow everything to stabilise before rechecking.